```
=> file biosis caba caplus lifesci medline
=> s (selective medium) and BCG
L2           0 (SELECTIVE MEDIUM) AND BCG

=> s (selective medium)
L3        7946 (SELECTIVE MEDIUM)

=> s l3 and alanine
L4          23 L3 AND ALANINE

=> dup rem l4
PROCESSING COMPLETED FOR L4
L5           15 DUP REM L4 (8 DUPLICATES REMOVED)

=> d bib ab kwic 1-
YOU HAVE REQUESTED DATA FROM 15 ANSWERS - CONTINUE? Y/(N):y

L5   ANSWER 1 OF 15  CAPLUS  COPYRIGHT 2008 ACS on STN
AN   2006:774852  CAPLUS <<LOGINID::20081221>>
DN   145:502211
TI   Application of Azospirillum melinis
IN   Tan, Zhiyuan; Peng, Guixiang; Wang, Huarong; Zhang, Guoxia; Hou, Wei
PA   South China Agricultural University, Peop. Rep. China
SO   Faming Zhuanli Shenqing Gongkai Shuomingshu, 9pp.
     CODEN: CNXXEV
DT   Patent
LA   Chinese
FAN.CNT 1
     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
     ---------------     ----   --------    --------------------   --------
PI   CN 1810953           A     20060802    CN 2006-10011403       20060301
     CN 100376666         C     20080326
PRAI CN 2006-10011403            20060301
AB   The invention provides an Azospirillum melinis strain TMCY 05519 (CGMCC
     No. 1580) and the nucleotide sequence of its 16S rDNA.  The strain is
     obtained by sepg. and purifying endogenous nitrogen-fixing bacterium from
     Melinis minutiflora in anaerobic and aerobic conditions with
       ***selective***     ***medium***  .  The strain has acid resistance and
     high nitrogenase activity, and can be used as inoculant for promoting the
     growth of Melinis minutiflora and gramineous crops.
AB   .  .  .  The strain is obtained by sepg. and purifying endogenous
     nitrogen-fixing bacterium from Melinis minutiflora in anaerobic and
     aerobic conditions with   ***selective***     ***medium***  .  The strain
     has acid resistance and high nitrogenase activity, and can be used as
     inoculant for promoting the growth of.  .  .
IT   50-21-5, Lactic acid, biological studies   50-70-4, D-Sorbitol, biological
     studies   56-45-1, L-Serine, biological studies   56-81-5, Glycerol,
     biological studies   56-84-8, L-Aspartic acid, biological studies
     56-86-0, L-Glutamic acid, biological studies   57-48-7, D-Fructose,
     biological studies   57-50-1, Sucrose, biological studies   69-65-8,
     D-Mannitol   69-79-4, Maltose   70-47-3, L-Asparagine, biological studies
     87-89-8, Inositol   87-99-0, Xylitol   99-20-7, D-Trehalose   147-85-3,
     L-Proline, biological studies   149-32-6, Erythritol   156-38-7
     312-84-5, D-Serine   338-69-2, D-  ***Alanine***     512-69-6, D-Raffinose
     526-95-4, D-Gluconic acid   528-50-7, D-Cellobiose   547-25-1, Turanose
     554-91-6, Gentiobiose   585-99-9, D-Melibiose   685-73-4, D-Galacturonic
     acid   687-69-4, L-Alanyl-glycine   3458-28-4, D-Mannose   4618-18-2,
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Lactulose 5328-37-0, L-Arabinose 6556-12-3, D-Glucuronic acid 7512-17-6, N-Acetyl-D-glucosamine 9004-53-9, Dextrin 9005-65-6, Tween 80 9005-66-7, Tween 40 9013-04-1, Nitrogenase 36413-60-2, Quinic acid 915161-65-8, 1: PN: CN1810953 SEQID: 1 claimed DNA
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(isolation and application of Azospirillum melinis)

L5 ANSWER 2 OF 15 CABA COPYRIGHT 2008 CABI on STN
AN 2005:140242 CABA <<LOGINID::20081221>>
DN 20053131702
TI In vitro selection and characterization of water stress tolerant cultures of bell pepper
AU Nath, A. K.; Suman Kumari; Sharma, D. R.; Kumari, S.
CS Department of Biotechnology, Dr. Y.S. Parmar University of Horticulture and Forestry, Solan - 173 230, India.
SO Indian Journal of Plant Physiology, (2005) Vol. 10, No. 1, pp. 14-19. 30 ref.
Publisher: Indian Society for Plant Physiology. New Delhi
ISSN: 0019-5502
CY India
DT Journal
LA English
ED Entered STN: 2 Sep 2005
Last Updated on STN: 2 Sep 2005
AB Callus of bell pepper (Capsicum annuum cv. California) was initiated from hypocotyl on MS [Murashige and Skoog's] medium supplemented with NAA (0.5 mg/litre) and BAP [benzyladenine] (0.2 mg/litre). For proliferation of callus, the hormone concentrations were reduced by 50%. Cell clumps approximately 1 mm in diameter were exposed to polyethylene glycol (PEG) at concentrations ranging from 10 to 100 g/litre for water stress tolerance. Upon incubation for 30 days, the cells, which showed tolerance of PEG, formed calluses. Selected calluses were further subcultured in a ***selective*** ***medium*** containing 100 g PEG/litre for 8 weeks and then transferred to normal MS medium for proliferation. The selected calluses transferred from the normal to the ***selective*** ***medium*** exhibited growth. However, variation in growth was observed, and the pattern was sigmoidal in both cell lines. Compared to the control, selected cells contained significantly higher levels of soluble proteins, total sugars, reducing sugar, and free amino acids. The water stress tolerant cells also revealed enhanced activities of malate dehydrogenase, alkaline invertase, NADP+ - isocitrate dehydrogenase [isocitrate dehydrogenase (NADP+)], aspartate aminotransferase, glutamate pyruvate transaminase [***alanine*** aminotransferase], and acid phosphatase.
AB . . . incubation for 30 days, the cells, which showed tolerance of PEG, formed calluses. Selected calluses were further subcultured in a ***selective*** ***medium*** containing 100 g PEG/litre for 8 weeks and then transferred to normal MS medium for proliferation. The selected calluses transferred from the normal to the ***selective*** ***medium*** exhibited growth. However, variation in growth was observed, and the pattern was sigmoidal in both cell lines. Compared to the. . . revealed enhanced activities of malate dehydrogenase, alkaline invertase, NADP+ - isocitrate dehydrogenase [isocitrate dehydrogenase (NADP+)], aspartate aminotransferase, glutamate pyruvate transaminase [***alanine*** aminotransferase], and acid phosphatase.
CT acid phosphatase; ***alanine*** aminotransferase; application rates; aspartate aminotransferase; benzyladenine; callus; characterization;

chemical composition; drought resistance; enzyme activity; enzymes; free amino acids; in vitro. . .

L5 ANSWER 3 OF 15 MEDLINE on STN
AN 2004562887 MEDLINE <<LOGINID::20081221>>
DN PubMed ID: 15485658
TI A cloned prokaryotic Cd2+ P-type ATPase increases yeast sensitivity to Cd2+.
AU Wu Chen-Chou; Bal Nathalie; Perard Julien; Lowe Jennifer; Boscheron Cecile; Mintz Elisabeth; Catty Patrice
CS Laboratoire de Biophysique Moleculaire et Cellulaire, UMR 5090 CEA-CNRS, Universite Joseph Fourier, CEA/DRDC/BMC, 17 rue des Martyrs, 38054 Grenoble Cedex 9, France.
SO Biochemical and biophysical research communications, (2004 Nov 19) Vol. 324, No. 3, pp. 1034-40.
Journal code: 0372516. ISSN: 0006-291X.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LA English
FS Priority Journals
EM 200412
ED Entered STN: 11 Nov 2004
Last Updated on STN: 20 Dec 2004
Entered Medline: 14 Dec 2004
AB CadA, the P1-type ATPase involved in Listeria monocytogenes resistance to Cd(2+), was expressed in Saccharomyces cerevisiae and did just the opposite to what was expected, as it strikingly decreased the Cd(2+) tolerance of these cells. Yeast cells expressing the non-functional mutant Asp(398)Ala could grow on ***selective*** ***medium*** containing up to 100 microM Cd(2+), whereas those expressing the functional protein could not grow in the presence of 1 microM Cd(2+). The CadA-GFP fusion protein was localized in the endoplasmic reticulum membrane, suggesting that yeast hyper-sensitivity was due to Cd(2+) accumulation in the reticulum lumen. CadA is also known to transport Zn(2+), but Zn(2+) did not protect the cells against Cd(2+) poisoning. In the presence of 10 microM Cd(2+), transformed yeasts survived by rapid loss of their expression vector.
AB . . . as it strikingly decreased the Cd(2+) tolerance of these cells. Yeast cells expressing the non-functional mutant Asp(398)Ala could grow on ***selective*** ***medium*** containing up to 100 microM Cd(2+), whereas those expressing the functional protein could not grow in the presence of 1. . .
CT Adenosine Triphosphatases: CH, chemistry
*Adenosine Triphosphatases: ME, metabolism
*Adenosine Triphosphatases: PH, physiology
Adenosine Triphosphate: CH, chemistry
*** Alanine: CH, chemistry***
Aspartic Acid: CH, chemistry
Cadmium: CH, chemistry
Cadmium: ME, metabolism
Culture Media: ME, metabolism
Culture Media: PD,. . .
RN 147336-22-9 (Green Fluorescent Proteins); ***56-41-7 (Alanine)*** ; 56-65-5 (Adenosine Triphosphate); 56-84-8 (Aspartic Acid); 7440-43-9 (Cadmium); 7440-66-6 (Zinc)

L5 ANSWER 4 OF 15 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on STN
DUPLICATE 1
AN 2003:312503 BIOSIS <<LOGINID::20081221>>
DN PREV200300312503
TI Isolation and growth optima of amino acid(s) producing bacteria from animal manure, soil and water samples of Lahore area.
AU Qazi, Javed I. [Reprint Author]; Noor, S. [Reprint Author]; Raqeeb, A. [Reprint Author]
CS Microbiology Laboratory, Department of Zoology, University of the Punjab, Quaid-e-Azam Campus, Lahore, 54590, Pakistan
SO Pakistan Journal of Zoology, (2002) Vol. 34, No. 4, pp. 331-338. print. CODEN: PJZOAN. ISSN: 0030-9923.
DT Article
LA English
ED Entered STN: 2 Jul 2003
Last Updated on STN: 2 Jul 2003
AB Bacteria were isolated from animal manure, soil and water samples on a ***selective*** ***medium*** devoid of amino acids. All the strains were found Gram-positive possessing in general rod shaped morphology accompanied with cocci cells except one strain which manifested pure coccus nature. Twenty percent of isolates produced only one amino acid. Of the remaining 5, 35 and 40% isolates produced four, three and two amino acids, respectively. The bacterial strains producing extracellular amino acid of one kind, gave rise to ***alanine*** , glycine and glutamic acid. Of the twenty bacterial isolates reported here four were optimized for growth and it was found that the isolates MRL-AA-4, MRL-AA-9 and MRL-AA-15 gave maximum production at 24 hours sampling period, while the strain MRL-AA-13 indicated highest yield of extracellular amino acids after 40 hours of incubation. These strains were found positive for catalase, motility and Voges-Proskauer tests, while they gave negative reactions for citrate utilization and MacConkey agar tests.
AB Bacteria were isolated from animal manure, soil and water samples on a ***selective*** ***medium*** devoid of amino acids. All the strains were found Gram-positive possessing in general rod shaped morphology accompanied with cocci cells. . . four, three and two amino acids, respectively. The bacterial strains producing extracellular amino acid of one kind, gave rise to ***alanine*** , glycine and glutamic acid. Of the twenty bacterial isolates reported here four were optimized for growth and it was found. . .
IT Major Concepts
Bioprocess Engineering
IT Chemicals & Biochemicals
alanine : amino acid, extracellular; catalase [EC 1.11.1.6]; citrate: utilization; glutamic acid: amino acid, extracellular; glycine: amino acid, extracellular
RN 56-41-7Q (***alanine***)
302-72-7Q (***alanine***)
9001-05-2 (catalase)
9001-05-2 (EC 1.11.1.6)
126-44-3 (citrate)
56-86-0Q (glutamic acid)
617-65-2Q (glutamic acid)
56-40-6 (glycine)

L5 ANSWER 5 OF 15 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2003:90658 CAPLUS <<LOGINID::20081221>>
DN 138:331833
TI A yeast-based functional assay for the detection of the mutant androgen receptor in prostate cancer
AU Ceraline, Jocelyn; Erdmann, Eva; Erbs, Philippe; Deslandres-Cruchant, Marion; Jacqmin, Didier; Duclos, Brigitte; Klein-Soyer, Claudine; Dufour, Patrick; Bergerat, Jean-Pierre
CS Laboratoire de Cancerologie Experimentale et de Radiobiologie, EA 3430-ULP, IRCAD, Strasbourg, F67091, Fr.
SO European Journal of Endocrinology (2002), Volume Date 2003, 148(1), 99-109
CODEN: EJOEEP; ISSN: 0804-4643
PB BioScientifica Ltd.
DT Journal
LA English
AB Mutations in the ligand-binding domain of the human androgen receptor (AR) figure among the ways used by prostate adenocarcinoma (PCa) cells to escape androgen dependence. These mutations may broaden the specificity and/or affinity of the AR to other hormones, resulting in inappropriate receptor activation and thus affecting the PCa response to physiol. stimuli and hormonal therapies. In order to clarify the impact of these mutations on disease progression and treatment, we have developed a yeast-based functional assay that allows the detection of mutant ARs and the anal. of their transactivation capacities in response to different ligands. AR cDNA was directly cloned into an expression vector in a yeast strain that carries a reporter gene (ADE2) linked to an androgen-dependent promoter. The expression of the ADE2 gene and consequently the yeast cell growth in a ***selective*** ***medium*** depleted in adenine depends on the specificity of the AR for the ligand added to the medium. By analyzing the transactivation capacities of different AR mols. in response to a broad range of steroid and non-steroid ligands, we have demonstrated that this assay can discriminate among wild-type AR, T877A. C685Y and L701H mutant ARs and that at least 1% of mutant ARs could be detected when mutant and wild-type ARs were mixed at the cDNA level. The data presented here show that this simple AR assay is convenient for the routine detection of mutant ARs in PCa and is also suitable to evaluate the antagonist activities of anti-androgen mols.
RE.CNT 46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT
AB . . . (ADE2) linked to an androgen-dependent promoter. The expression of the ADE2 gene and consequently the yeast cell growth in a ***selective*** ***medium*** depleted in adenine depends on the specificity of the AR for the ligand added to the medium. By analyzing the. . .
IT 56-41-7, L- ***Alanine*** , biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(to substitute 877Cys of androgen receptor; yeast-based functional assay for detection of activation of mutant androgen receptors by different ligands in prostate cancer cells)

L5 ANSWER 6 OF 15 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on STN DUPLICATE 2
AN 2000:503532 BIOSIS <<LOGINID::20081221>>
DN PREV200000503532
TI Detection and substrate selectivity of new microbial D-amino acid oxidases.
AU Gabler, M.; Hensel, M.; Fischer, L. [Reprint author]
CS Division of Biotechnology, Institute of Food Technology, University of

Hohenheim, Emil-Wolff-Str. 14, D-70599, Stuttgart, Germany
SO Enzyme and Microbial Technology, (November 1, 2000) Vol. 27, No. 8, pp. 605-611. print.
CODEN: EMTED2. ISSN: 0141-0229.
DT Article
LA English
ED Entered STN: 22 Nov 2000
Last Updated on STN: 11 Jan 2002
AB In order to screen for new microbial D-amino acid oxidase activities a selective and sensitive peroxidase/o-dianisidine assay, detecting the formation of hydrogen peroxide was developed. Catalase, which coexists with oxidases in the peroxisomes or the microsomes and, which competes with peroxidase for hydrogen peroxide, was completely inhibited by o-dianisidine up to a catalase activity of 500 nkat ml-1. Thus, using the peroxidase/o-dianisidine assay and employing crude extracts of microoganisms in a microplate reader, a detection sensitivity for oxidase activity of 0.6 nkat ml-1 was obtained. Wild type colonies which were grown on a ***selective*** ***medium*** containing D- ***alanine*** as carbon, energy and nitrogen source were examined for D-amino acid oxidase activity by the peroxidase/o-dianisidine assay. The oxidase positive colonies possessing an apparent oxidase activity > 2 nkat g dry biomass-1 were isolated. Among them three new D-amino acid oxidase-producers were found and identified as Fusarium oxysporum, Verticilium lutealbum and Candida parapsilosis. The best new D-amino oxidase producer was the fungus F. oxysporum with a D-amino acid oxidase activity of about 900 nkat g dry biomass-1 or 21 nkat mg protein-1. With regard to the use as a biocatalytic tool in biotechnology the substrate specificities of the three new D-amino acid oxidases were compared with those of the known D-amino acid oxidases from Trigonopsis variabilis, Rhodotorula gracilis and pig kidney under the same conditions. All six D-amino acid oxidases accepted the D-enantiomers of ***alanine*** , valine, leucine, proline, phenylalanine, serine and glutamine as substrates and, except for the D-amino acid oxidase from V. luteoalbum, D-tryptophane, D-tyrosine, D-arginine and D-histidine were accepted as well. The relative highest activities (>95%) were measured versus D- ***alanine*** (C. parapsilosis, F. oxysporum, T. variabilis), D-methionine (V. luteoalbum, R. gracilis), D-valine (T. variabilis, R. gracilis) and D-proline (pig kidney). The D-amino oxidases from F. oxysporum and V. luteoalbum were able to react with the industrially important substrate cephalosporin C although the D-amino acid oxidase from T. variabilis was at least about 20-fold more active with this substrate. As the results of our studies, a reliable oxidase assay was developed, allowing high throughput screening in a microplate reader. Furthermore, three new microbial D-amino acid oxidase-producers with interesting broad substrate specificities were introduced in the field of biotechnology.
AB. . . a detection sensitivity for oxidase activity of 0.6 nkat ml-1 was obtained. Wild type colonies which were grown on a ***selective*** ***medium*** containing D- ***alanine*** as carbon, energy and nitrogen source were examined for D-amino acid oxidase activity by the peroxidase/o-dianisidine assay. The oxidase positive. . . Trigonopsis variabilis, Rhodotorula gracilis and pig kidney under the same conditions. All six D-amino acid oxidases accepted the D-enantiomers of ***alanine*** , valine, leucine, proline, phenylalanine, serine and glutamine as substrates and, except for the D-amino acid oxidase from V. luteoalbum, D-tryptophane, D-tyrosine, D-arginine and D-histidine were accepted as well. The relative highest activities (>95%) were measured versus D- ***alanine*** (C. parapsilosis, F. oxysporum, T. variabilis),

D-methionine (V. luteoalbum, R. gracilis), D-valine (T. variabilis, R. gracilis) and D-proline (pig kidney).. . .

L5 ANSWER 7 OF 15 MEDLINE on STN
AN 2001010116 MEDLINE <<LOGINID::20081221>>
DN PubMed ID: 10872076
TI Segregation following interspecific transfer of isolated nuclei between Phytophthora parasitica and P. capsici.
AU Gu Y H; Ko W H
CS Department of Plant Pathology, Beaumont Agricultural Research Center, University of Hawaii at Manoa, Hilo 96720, USA.
SO Canadian journal of microbiology, (2000 May) Vol. 46, No. 5, pp. 410-6. Journal code: 0372707. ISSN: 0008-4166.
CY Canada
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200010
ED Entered STN: 22 Mar 2001
Last Updated on STN: 22 Mar 2001
Entered Medline: 20 Oct 2000
AB Nuclei isolated from metalaxyl-resistant (MR) protoplasts of Phytophthora parasitica were transferred into chloroneb-resistant (CnR) protoplasts of Phytophthora capsici and vice versa, with an average success rate of 2.6 x 10(-4) (protoplasts with donor nuclei/regenerated protoplasts), using a ***selective*** ***medium*** containing only the fungicide tolerated by the nuclear donor. No colonies appeared when self-fusion products of donor nuclei or recipient protoplasts were exposed to the ***selective*** ***medium*** . Colonies produced by the nuclear transfer formed sectors commonly, and differed from the parental types in appearance. All the zoospores produced by the nuclear hybrids were of normal size, and one-fifth of them contained both MR and CnR genes. Since zoospores are mostly uninucleate, these results indicated the occurrence of chromosome re-assortment or mitotic crossing-over following the production of transitory tetraploids, followed by diploidization during zoosporogenesis, thus suggesting the completion of events leading to a parasexual cycle. Hyphal fragment cultures from a nuclear hybrid tested showed considerable variation in growth rate, mycelial morphology, and level of resistance to metalaxyl, indicating uneven distribution and continuous segregation of different types of nuclei in mycelia during vegetative growth.
AB . . . capsici and vice versa, with an average success rate of 2.6 x 10(-4) (protoplasts with donor nuclei/regenerated protoplasts), using a ***selective*** ***medium*** containing only the fungicide tolerated by the nuclear donor. No colonies appeared when self-fusion products of donor nuclei or recipient protoplasts were exposed to the ***selective*** ***medium*** . Colonies produced by the nuclear transfer formed sectors commonly, and differed from the parental types in appearance. All the zoospores. . .
CT *** Alanine: AA, analogs & derivatives***
*** Alanine: PD, pharmacology***
*Cell Nucleus: GE, genetics
Chlorobenzenes: PD, pharmacology
Crossing Over, Genetic
Culture Media

Drug Resistance, Microbial: GE, genetics
. . .
RN 2675-77-6 (chloroneb); ***56-41-7 (Alanine)*** ; 57837-19-1 (metalaxyl)

L5 ANSWER 8 OF 15 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1996:146874 CAPLUS <<LOGINID::20081221>>
DN 124:226852
OREF 124:41909a,41912a
TI Transgenic potato with high essential amino acid encoding gene
AU Wang, Guang-qing; Wang, Yun-zhu; Yang, Jin-shui; Ying, Yan-ru; Qian, Min; Ge, Kou-lin
CS Institute Genetics, Fudan University, Shanghai, 200433, Peop. Rep. China
SO Zhiwu Xuebao (1995), 37(8), 655-8
CODEN: CHWHAY; ISSN: 0577-7496
PB Kexue
DT Journal
LA Chinese
AB Leaf disks of potato (Solanum tuberosum) "Dongnong 303" sterile seedlings were inoculated with Agrobacterium tumefaciens strain C58C1 harboring a helper plasmid pGV2260 and a binary vector plasmid pPZH1. Wounded leaves formed kanamycin-resistant calli on a ***selective*** ***medium*** . The transformation rates ranged from 4% to 38% for different varieties. Regenerated transgenic plantlets confirmed by NPT II (neomycin phosphotransferase) activity assay and DNA hybridization have been obtained. The data from amino acid assay revealed that the contents of most amino acids of the transgenic microtubers displayed various increments as compared with those of control microtubers and the total amino acids content increased by 96.1% over the control.
AB . . . strain C58C1 harboring a helper plasmid pGV2260 and a binary vector plasmid pPZH1. Wounded leaves formed kanamycin-resistant calli on a ***selective*** ***medium*** . The transformation rates ranged from 4% to 38% for different varieties. Regenerated transgenic plantlets confirmed by NPT II (neomycin phosphotransferase). . .
IT 56-40-6, Glycine, biological studies 56-41-7, L- ***Alanine*** , biological studies 56-45-1, L-Serine, biological studies 56-84-8, L-Aspartic acid, biological studies 56-86-0, L-Glutamic acid, biological studies 56-87-1, L-Lysine, biological studies 60-18-4, L-Tyrosine, biological studies 61-90-5, Leu, biological studies 63-68-3, L-Methionine, biological studies 63-91-2, L-Phenylalanine, biological studies 71-00-1, L-Histidine, biological studies 72-18-4, L-Valine, biological studies 73-32-5, L-Isoleucine, biological studies 74-79-3, L-Arginine, biological studies 147-85-3, L-Proline, biological studies
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(transgenic potato with high essential amino acid encoding gene)

L5 ANSWER 9 OF 15 CAPLUS COPYRIGHT 2008 ACS on STN DUPLICATE 3
AN 1994:99782 CAPLUS <<LOGINID::20081221>>
DN 120:99782
OREF 120:17543a,17546a
TI Structurally engineered cytochromes with unusual ligand-binding properties: expression of Saccharomyces cerevisiae Met-80 .fwdarw. Ala iso-1-cytochrome c
AU Lu, Yi; Casimiro, Danilo R.; Bren, Kara L.; Richards, John H.; Gray, Harry B.
CS Beckman Inst., California Inst. Technol., Pasadena, CA, 91125, USA
SO Proceedings of the National Academy of Sciences of the United States of

America (1993), 90(24), 11456-9
CODEN: PNASA6; ISSN: 0027-8424
DT Journal
LA English
AB A strategy has been developed to express and purify a recombinant, nonfunctional axial-ligand mutant of iso-1-cytochrome c (Met-80 .fwdarw. Ala) in Saccharomyces cerevisiae in quantities necessary for extensive biophys. characterization. It involves coexpressing in the same plasmid (YEp213) the nonfunctional gene with a functional gene copy for complementation in a ***selective*** ***medium*** . The functional gene encodes a product with an engineered metal-chelating dihistidine site (His-39 and Leu-58 .fwdarw. His) that enables efficient sepn. of the two isoforms by immobilized metal-affinity chromatog. The purified Met-80 .fwdarw. Ala protein possesses a binding site for dioxygen and other exogenous ligands. Absorption spectra of several derivs. of this mutant show striking similarities to those of corresponding derivs. of horseradish peroxidase, myoglobin, and cytochrome P 450. The use of a dual-gene vector for cytochrome c expression together with metal-affinity sepn. opens the way for the engineering of variants with dramatically altered structural and catalytic properties.
AB . . . It involves coexpressing in the same plasmid (YEp213) the nonfunctional gene with a functional gene copy for complementation in a ***selective*** ***medium*** . The functional gene encodes a product with an engineered metal-chelating dihistidine site (His-39 and Leu-58 .fwdarw. His) that enables efficient. . .
IT 63-68-3, Methionine, biological studies
RL: BIOL (Biological study)
(of cytochrome c isoform 1 position 80, ***alanine*** replacement of, protein engineering and ligand-binding properties in relation to)

L5 ANSWER 10 OF 15 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on STN DUPLICATE 4
AN 1984:266404 BIOSIS <<LOGINID::20081221>>
DN PREV198478002884; BA78:2884
TI ISOLATION AND ANALYSIS OF 2 ESCHERICHIA-COLI K-12 ILV ATTENUATOR DELETION MUTANTS WITH HIGH LEVEL CONSTITUTIVE EXPRESSION OF AN ILV LAC FUSION OPERON.
AU BENNETT D C [Reprint author]; UMBARGER H E
CS PURDUE UNIV BIOCHEM PROGRAM, PURDUE UNIV, WEST LAFAYETTE, INDIANA 47907, USA
SO Journal of Bacteriology, (1984) Vol. 157, No. 3, pp. 839-845.
CODEN: JOBAAY. ISSN: 0021-9193.
DT Article
FS BA
LA ENGLISH
AB A lysogenizing phage, .lambda. dilv-lac11, was constructed to carry an ilvD-lac operon fusion. Expression from the phage of the ilvE and lacZ genes is controlled by an intact ilv control region also carried by this phage. Two spontaneous mutants of .lambda. dilv-lac11 that have high-level constitutive expression of the ilv-lac fusion operon were isolated by growth on a .beta.-chloroalanine ***selective*** ***medium*** . The mutants were shown by nucleotide sequence determination to contain large deletions (.DELTA.2216, .apprx. 1.6 kilobases: .DELTA.2219, .apprx. 1.9 kilobases), which in both cases remove the proposed ilv attenuator terminator. The rest of the ilv leader and promoter region DNA remains intact in these mutants. Deletion 2216

removed part of the downstream ilvG gene. .DELTA.2219 extended through the entire ilvG gene into the ilvGE intercistronic region. A possible mechanism of deletion formation is discussed.

AB. . . of .lambda. dilv-lac11 that have high-level constitutive expression of the ilv-lac fusion operon were isolated by growth on a .beta.-chloroalanine ***selective*** ***medium*** . The mutants were shown by nucleotide sequence determination to contain large deletions (.DELTA.2216, .apprx. 1.6 kilobases: .DELTA.2219, .apprx. 1.9 kilobases),. . .

IT Miscellaneous Descriptors
PHAGE LAMBDA BETA CHLORO ***ALANINE*** ILV-E GENE LAC-Z GENE ILV-G GENE/

L5 ANSWER 11 OF 15 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on STN

AN 1981:154297 BIOSIS <<LOGINID::20081221>>

DN PREV198171024289; BA71:24289

TI APPROACH TO RECOGNITION OF REGULATORY MUTANTS OF CYANOBACTERIA.

AU HALL G [Reprint author]; FLICK M B; JENSEN R A

CS CENT SOMATIC-CELL GENETICS BIOCHEMISTRY, STATE UNIV NY, BINGHAMTON, NY 13901, USA

SO Journal of Bacteriology, (1980) Vol. 143, No. 2, pp. 981-988.
CODEN: JOBAAY. ISSN: 0021-9193.

DT Article

FS BA

LA ENGLISH

AB Antimetabolite analogs of essential amino acids are useful as selective agents for isolation of regulatory mutants of cyanobacteria, although striking microbiological differences from other widely used eubacterial systems were observed. Regulatory mutants shown to overproduce and excrete tryptophan, phenylalanine, tyrosine, methionine or arginine were isolated from 4 cyanobacteria: Anabaena sp. 29151, Synechococcus sp. 602, Synechococcus sp. AN Tx20 and Synechocystis sp. 29108. Surprisingly, regulatory-mutant colonies did not support a halo of cross-fed wild-type growth on ***selective*** ***medium*** . Since regulatory mutants were shown to excrete substantial levels of amino acids, it was deduced that poor cross-feeding must reflect a generally low nutritional responsiveness of the cyanobacterial background. Regulatory-mutant cells of cyanobacteria dispersed among wild-type populations of Bacillus subtilis did produce halo colonies on solid analog-containing medium. Cross-feeding between one cyanobacterial pair (a phenylalanine excretor and a phenylalanine auxotroph) was successfully demonstrated in the absence of the analog under conditions in which relatively large masses of each cell population type were spread near one another on agar plates. These results suggest that amino acid excreted by regulatory mutants of cyanobacteria on analog-containing ***selective*** ***medium*** is transported into nearby wild-type cells too inefficiently to overcome the antimetabolite effects of the analog, thereby failing to generate halos of phsyiologically resistant background cells. Consistent with this interpretation was the finding that the pheA1 auxotroph from Synechococcus sp. 602 exhibited a linearly proportional dependence of growth rate upon exogenous concentration of L-phenylalanine (below 20 .mu.M). Wild-type B. subtilis serves as a convenient and sensitive test lawn for screening obvious regulatory mutants for among collections of analog-resistant cyanobacterial mutants. Appropriate B. subtilis auxotrophs can be used as convenient indicator strains for the identification of regulatory mutants in cyanobacteria through the observation of syntrophic growth responses.

AB. . . sp. AN Tx20 and Synechocystis sp. 29108. Surprisingly, regulatory-mutant colonies did not support a halo of cross-fed wild-type growth on ***selective*** ***medium*** . Since regulatory mutants were shown to excrete substantial levels of amino acids, it was deduced that poor cross-feeding must reflect. . . near one another on agar plates. These results suggest that amino acid excreted by regulatory mutants of cyanobacteria on analog-containing ***selective*** ***medium*** is transported into nearby wild-type cells too inefficiently to overcome the antimetabolite effects of the analog, thereby failing to generate. . .

IT Miscellaneous Descriptors
SYNECHOCOCCUS-SP AN-TX-20 SYNECHOCOCCUS-SP 602 SYNECHOCYSTIS-SP 29108 ANABAENA-SP 29151 BACILLUS-SUBTILIS EUBACTERIAL SYSTEM TRYPTOPHAN PHENYL ***ALANINE*** TYROSINE METHIONINE ARGININE SYNTHESIS

RN . . . 73-22-3Q (TRYPTOPHAN)
63-91-2Q (PHENYLALANINE)
150-30-1Q (PHENYLALANINE)
60-18-4Q (TYROSINE)
556-03-6Q (TYROSINE)
59-51-8Q (METHIONINE)
63-68-3Q (METHIONINE)
74-79-3Q (ARGININE)
7200-25-1Q (ARGININE)
3617-44-5Q (PHENYL ***ALANINE***)
6912-86-3Q (TRYPTOPHAN)
7004-12-8Q (ARGININE)
7005-18-7Q (METHIONINE)
55520-40-6Q (TYROSINE)

L5 ANSWER 12 OF 15 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on STN DUPLICATE 5

AN 1980:183808 BIOSIS <<LOGINID::20081221>>

DN PREV198069058804; BA69:58804

TI DEVELOPMENT OF A ***SELECTIVE*** ***MEDIUM*** FOR THE ISOLATION OF CLOSTRIDIUM-SPOROGENES AND RELATED ORGANISMS.

AU FRYER T F [Reprint author]; MEAD G C

CS DEP MICROBIOL, NZ DAIRY RES INST, PRIV BAG, PALMERSTON NORTH, NZ

SO Journal of Applied Bacteriology, (1979) Vol. 47, No. 3, pp. 425-432. CODEN: JABAA4. ISSN: 0021-8847.

DT Article

FS BA

LA ENGLISH

AB An attempt was made to develop a selective isolation medium for C. sporogenes and related organisms based on the ability of these organisms to obtain their energy for growth by means of coupled oxidation-reduction reactions between appropriate pairs of amino acids (Stickland reaction). Using a semi-defined basal medium containing various combinations of amino acids, it was found that C. sporogenes utilized a wider range of amino acid pairs than strains of 5 other species of clostridia known to carry out a Stickland-type fermentation. With ***alanine*** and proline as the principal energy sources and the medium solidified with agar, reference strains of C. sporogenes and proteolytic C. botulinum types A, B and F could be recovered almost quantitatively, with or without prior heating at 80.degree. C for 10 min. By contrast, growth of test strains of Streptococcus faecalis, S. faecium, saccharolytic C. botulinum types B, C, D, E and F and proteolytic strains of types C and D was suppressed on this medium, as were strains of 26 other spp. of clostridia. Addition of

50 .mu.g/ml of polymyxin to the agar medium had no detectable effect on the recovery of C. sporogenes or C. botulinum. When samples of soil and mud were plated on the antibiotic-containing medium, 63.1% of 225 isolates thus obtained were identified as C. sporogenes/botulinum.

TI DEVELOPMENT OF A ***SELECTIVE*** ***MEDIUM*** FOR THE ISOLATION OF CLOSTRIDIUM-SPOROGENES AND RELATED ORGANISMS.

AB. . . of amino acid pairs than strains of 5 other species of clostridia known to carry out a Stickland-type fermentation. With ***alanine*** and proline as the principal energy sources and the medium solidified with agar, reference strains of C. sporogenes and proteolytic. . .

IT Miscellaneous Descriptors
CLOSTRIDIUM-BOTULINUM ***ALANINE*** PROLINE POLYMYXIN
ANTIBACTERIAL-DRUG

RN 56-41-7Q (***ALANINE***)
302-72-7Q (***ALANINE***)
147-85-3Q (PROLINE)
609-36-9Q (PROLINE)
1406-11-7 (POLYMYXIN)
6898-94-8Q (***ALANINE***)
7005-20-1Q (PROLINE)

L5 ANSWER 13 OF 15 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1973:439975 CAPLUS <<LOGINID::20081221>>
DN 79:39975
OREF 79:6506h,6507a
TI ***Selective*** ***medium*** for the detection of Pseudomonas aeruginosa
IN Abdou, Mohamed
PA Boehringer, C. H., Sohn
SO Ger. Offen., 8 pp. Division of Ger. Offen. 2,151,413.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI DE 2166086	A1	19730419	DE 1971-2166086	19711015
DE 2166086	B2	19770707		
PRAI DE 1971-2166086	A	19711015		

AB Two selective media for the enrichment and qual. detn. of P. aeruginosa in pharmaceutical products are described. Besides the normal constituents, the solid media contain N-cocos-.beta.- propionic acid (1-3 g/l.) and a Cd salt (preferably CdSO4, 0.05-0.3 g/l.). The pH of the media was adjusted to 6.6-7.6 with the opt. at pH 7.2. The complete medium was autoclaved. The incubation period was 1-3 days at 35-39. The identification of distinct groups of P. aeruginosa was made using media addnl. contg. D,L- ***alanine*** for pyocyanine formation or glycerine and phosphate for prodn. of fluorescing compds.

TI ***Selective*** ***medium*** for the detection of Pseudomonas aeruginosa

AB . . . period was 1-3 days at 35-39. The identification of distinct groups of P. aeruginosa was made using media addnl. contg. D,L- ***alanine*** for pyocyanine formation or glycerine and phosphate for prodn. of fluorescing compds.

IT Pseudomonas aeruginosa
(detection of, ***selective*** ***medium*** for)

L5 ANSWER 14 OF 15 MEDLINE on STN
AN 1972026698 MEDLINE <<LOGINID::20081221>>
DN PubMed ID: 4939768
TI Enriched selection of dominant mutations: histidine operator mutations.
AU Chang G W; Straus D; Ames B N
SO Journal of bacteriology, (1971 Aug) Vol. 107, No. 2, pp. 578-9.
Journal code: 2985120R. ISSN: 0021-9193.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 197201
ED Entered STN: 10 Mar 1990
Last Updated on STN: 10 Mar 1990
Entered Medline: 4 Jan 1972
AB In the course of selection of bacteria with derepressed levels of histidine biosynthetic enzymes, it was found that when mutagen-treated cells were spread on a ***selective*** ***medium*** without allowing intervening growth to occur, the frequency of operator mutants obtained was dramatically increased. This may be useful as a general enrichment for operator or other dominant mutations.
AB . . . of bacteria with derepressed levels of histidine biosynthetic enzymes, it was found that when mutagen-treated cells were spread on a ***selective*** ***medium*** without allowing intervening growth to occur, the frequency of operator mutants obtained was dramatically increased. This may be useful as. . .
CT *** Alanine***
Bacteriological Techniques
Culture Media
*Genes, Dominant
Genes, Regulator
*Genetics, Microbial
Glucose
*Histidine: BI, biosynthesis
Mutagens
*Mutation
Salmonella typhimurium: CY,. . .
RN 50-99-7 (Glucose); ***56-41-7 (Alanine)*** ; 71-00-1 (Histidine)

L5 ANSWER 15 OF 15 MEDLINE on STN
AN 1965023446 MEDLINE <<LOGINID::20081221>>
DN PubMed ID: 14219048
TI RECOMBINATION BETWEEN NOCARDIA ERYTHROPOLIS AND NOCARDIA CANICRURIA.
AU ADAMS J N
SO Journal of bacteriology, (1964 Oct) Vol. 88, pp. 865-76.
Journal code: 2985120R. ISSN: 0021-9193.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS OLDMEDLINE; NONMEDLINE
EM 199612
ED Entered STN: 16 Jul 1999
Last Updated on STN: 16 Jul 1999
Entered Medline: 1 Dec 1996
AB Adams, James N. (University of South Dakota, Vermillion). Recombination between Nocardia erythropolis and Nocardia canicruria. J. Bacteriol. 88:865-876. 1964.-Nutritionally complementary auxotrophic mutants derived

from Nocardia erythropolis did not yield prototrophic recombinants when progeny from mixed cultures or newly mixed strains were inoculated onto minimal medium. Similarly, complementary auxotrophic mutants of N. canicruria did not produce prototrophic recombinants. When interspecific mating was attempted between complementary mutants of N. erythropolis and N. canicruria, prototrophic recombinants were recovered at frequencies dependent, in part, upon the auxotrophic strains used in the test crosses. Growth of the parental types in mixed cultures was necessary for the production of recombinant progeny. Direct selection for recombinants by inoculating the ***selective*** ***medium*** with a mixture of parental types without prior mixed growth did not result in the recovery of recombinants. Varying the medium upon which mixed growth occurred, or varying the ratio of N. erythropolis to N. canicruria cells used as inocula, did not greatly affect the recovery of recombinants. Heat-killing one or the other of the parental types prevented recombinant production. The lack of recovery of recombinants from crosses of homologously derived strains suggested that a mating factor controls recombination. The mating factor was not eliminated by acriflavine treatment. The recovery of a recombinant strain capable of forming recombinants with either N. erythropolis or N. canicruria, and the recovery of another strain which mated only with N. erythropolis in backcrosses, suggests that the mating factor may be of a multiple nature.

AB . . . parental types in mixed cultures was necessary for the production of recombinant progeny. Direct selection for recombinants by inoculating the ***selective*** ***medium*** with a mixture of parental types without prior mixed growth did not result in the recovery of recombinants. Varying the. . .

ST ***adenine; alanine; antibiotics; arginine; cysteine; cystine; drug***
*** resistance, microbial; experimental lab study; glycine; guanine;***
*** histidine; hypoxanthines; isoleucine; leucine; lysine; metabolism;***
*** methionine;. . . ***
CT *Adenine
*** ****Alanine***
*Anti-Bacterial Agents
*Arginine
*Cysteine
*Cystine
*Drug Resistance, Microbial
*Glycine
*Guanine
*Histidine
*Hypoxanthines
*Isoleucine
*Leucine
*Lysine
*Metabolism
*Methionine
*Mutation
*Nocardia
*Research

. . .

RN 52-90-4 (Cysteine); 56-40-6 (Glycine); ***56-41-7 (Alanine)*** ; 56-87-1 (Lysine); 56-89-3 (Cystine); 57-92-1 (Streptomycin); 61-90-5 (Leucine); 63-68-3 (Methionine); 7004-03-7 (Valine); 71-00-1 (Histidine); 73-24-5 (Adenine); 73-32-5 (Isoleucine); 73-40-5. . .

```
=> s l2 and (only nitrogen source)
L6            0 L2 AND (ONLY NITROGEN SOURCE)

=> s (alanine or serine) and (only nitrogen source)
L7           37 (ALANINE OR SERINE) AND (ONLY NITROGEN SOURCE)

=> dup rem l7
PROCESSING COMPLETED FOR L7
L8            19 DUP REM L7 (18 DUPLICATES REMOVED)

=> s l8 and medium
L9           10 L8 AND MEDIUM

=> d bib ab kwic 1-
YOU HAVE REQUESTED DATA FROM 10 ANSWERS - CONTINUE? Y/(N):y

L9   ANSWER 1 OF 10  BIOSIS  COPYRIGHT (c) 2008 The Thomson Corporation  on STN
AN   1997:155180  BIOSIS <<LOGINID::20081221>>
DN   PREV199799454383
TI   Nitrogen source regulates expression of   ***alanine***   dehydrogenase
     isoenzymes in Streptomyces avermitilis in a chemically defined
       ***medium***  .
AU   Novak, Jan [Reprint author]; Kopecky, Jan; Vanek, Zdenko
CS   Sch. Dent., Univ. Alabama at Birmingham, 1919 7th Ave. South, LHR 250,
     Birmingham, AL 35294, USA
SO   Canadian Journal of Microbiology, (1997) Vol. 43, No. 2, pp. 189-193.
     CODEN: CJMIAZ. ISSN: 0008-4166.
DT   Article
LA   English
ED   Entered STN: 15 Apr 1997
     Last Updated on STN: 15 Apr 1997
AB   Ammonium ions and   ***alanine***   influence production of the macrolide
     avermectin in Streptomyces avermitilis.  L-  ***Alanine***   dehydrogenase
     and   ***alanine***   aminotransferase are the primary enzymes responsible
     for regulating the intracellular concentration of   ***alanine***   and
     also of ammonium ions.  In cultures of S. avermitilis in a chemically
     defined   ***medium***   with ammonia or L-  ***alanine***   as the
       ***only***     ***nitrogen***     ***source***  , specific activities of
     both enzymes increased during growth.  The   ***alanine***   dehydrogenase
     specific activity increased more than 86-fold after the culture was
     supplemented with 0.2% L-  ***alanine***   and 5-fold after addition of
     0.5% ammonium sulfate, whereas   ***alanine***   aminotransferase specific
     activity increased 3- to 4-fold with either substrate.  Five isoenzymes of
       ***alanine***   dehydrogenase were detected histochemically in S.
     avermitilis after native gel electrophoresis.  Isoenzyme 1 was induced by
       ***alanine***   and temporarily repressed by high concentrations of
     ammonium sulfate.  The presence of isoenzyme 1 was also related to changes
     in the kinetic properties of the   ***alanine***   dehydrogenase reaction
     measured in crude desalted extracts.  A nonlinear double-reciprocal plot
     was obtained in initial velocity studies using L-  ***alanine***   as a
     substrate in the sample induced with L-  ***alanine***  .  The
     nonlinearity was caused by both substrate inhibition and allosteric
     regulation (positive cooperativity) by L-  ***alanine***  .  In contrast,
     the sample induced by ammonium sulfate showed a linear double-reciprocal
     plot.
TI   Nitrogen source regulates expression of   ***alanine***   dehydrogenase
     isoenzymes in Streptomyces avermitilis in a chemically defined
```

medium .

AB Ammonium ions and ***alanine*** influence production of the macrolide avermectin in Streptomyces avermitilis. L- ***Alanine*** dehydrogenase and ***alanine*** aminotransferase are the primary enzymes responsible for regulating the intracellular concentration of ***alanine*** and also of ammonium ions. In cultures of S. avermitilis in a chemically defined ***medium*** with ammonia or L- ***alanine*** as the ***only*** ***nitrogen*** ***source*** , specific activities of both enzymes increased during growth. The ***alanine*** dehydrogenase specific activity increased more than 86-fold after the culture was supplemented with 0.2% L- ***alanine*** and 5-fold after addition of 0.5% ammonium sulfate, whereas ***alanine*** aminotransferase specific activity increased 3- to 4-fold with either substrate. Five isoenzymes of ***alanine*** dehydrogenase were detected histochemically in S. avermitilis after native gel electrophoresis. Isoenzyme 1 was induced by ***alanine*** and temporarily repressed by high concentrations of ammonium sulfate. The presence of isoenzyme 1 was also related to changes in the kinetic properties of the ***alanine*** dehydrogenase reaction measured in crude desalted extracts. A nonlinear double-reciprocal plot was obtained in initial velocity studies using L- ***alanine*** as a substrate in the sample induced with L- ***alanine*** . The nonlinearity was caused by both substrate inhibition and allosteric regulation (positive cooperativity) by L- ***alanine*** . In contrast, the sample induced by ammonium sulfate showed a linear double-reciprocal plot.

IT . . .
Biophysics; Bioprocess Engineering; Enzymology (Biochemistry and Molecular Biophysics); Metabolism; Methods and Techniques; Nutrition; Pharmacology; Physiology

IT Chemicals & Biochemicals
NITROGEN; ***ALANINE*** DEHYDROGENASE; EC 1.4.1.1; AMMONIUM IONS; ***ALANINE*** ; ***ALANINE*** AMINOTRANSFERASE; AVERMECTIN

IT Miscellaneous Descriptors
ALANINE ; ***ALANINE*** AMINOTRANSFERASE; ***ALANINE*** DEHYDROGENASE; AMMONIUM IONS; ANALYTICAL METHOD; AVERMECTIN; AVERMECTIN PRODUCTION; BIOPROCESS ENGINEERING; CHEMICALLY DEFINED ***MEDIUM*** ; EC 1.4.1.1; ENZYMOLOGY; EXPRESSION; GEL ELECTROPHORESIS; ISOZYMES; NITROGEN SOURCE; NITROGEN SOURCES; NUTRITION; STRAIN-C-18

RN 7727-37-9 (NITROGEN)
9029-06-5 (***ALANINE*** DEHYDROGENASE)
9029-06-5 (EC 1.4.1.1)
14798-03-9 (AMMONIUM IONS)
56-41-7Q (***ALANINE***)
302-72-7Q (***ALANINE***)
9000-86-6 (***ALANINE*** AMINOTRANSFERASE)
73989-17-0 (AVERMECTIN)

L9 ANSWER 2 OF 10 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on STN
AN 1993:278980 BIOSIS <<LOGINID::20081221>>
DN PREV199396009205
TI Enzymes of ammonium assimilation in Streptomyces avermitilis.
AU Novak, J.; Curdova, E.; Jechova, V.; Cimburkova, E.; Vanek, Z.
CS Lab. Biogenesis Natural Metabolites, Inst. Microbiol., Czech. Acad. Sciences, 142 20 Prague 4, czech republic
SO Folia Microbiologica, (1992) Vol. 37, No. 4, pp. 261-266.
CODEN: FOMIAZ. ISSN: 0015-5632.
DT Article

LA English
ED Entered STN: 9 Jun 1993
Last Updated on STN: 9 Jun 1993
AB Glutamine synthetase (GS), glutamate synthase (GOGAT), glutamate dehydrogenase (GDH), ***alanine*** dehydrogenase (ADH) and ***alanine*** aminotransferase (GPT) were detected in the cell-free homogenate of Streptomyces avermitilis grown in a defined ***medium*** containing ammonium sulfate as the ***only*** ***nitrogen*** ***source*** . At an initial NH-4+ concentration of 7.5 mmol/L, high activities of GS, GOGAT and GDH were found while that of ADH was low. The ADH activity was markedly increased at initially millimolar NH-4+ concentrations. In some characteristics of its NH-4+ -assimilating system (e.g. control of some enzyme activities, the NADPH specificity of GOGAT, the presence of ***alanine*** aminotransferase), S. avermitilis differs from other known streptomycetes.
AB Glutamine synthetase (GS), glutamate synthase (GOGAT), glutamate dehydrogenase (GDH), ***alanine*** dehydrogenase (ADH) and ***alanine*** aminotransferase (GPT) were detected in the cell-free homogenate of Streptomyces avermitilis grown in a defined ***medium*** containing ammonium sulfate as the ***only*** ***nitrogen*** ***source*** . At an initial NH-4+ concentration of 7.5 mmol/L, high activities of GS, GOGAT and GDH were found while that of. . . characteristics of its NH-4+ -assimilating system (e.g. control of some enzyme activities, the NADPH specificity of GOGAT, the presence of ***alanine*** aminotransferase), S. avermitilis differs from other known streptomycetes.
IT Major Concepts
Enzymology (Biochemistry and Molecular Biophysics); Metabolism; Physiology
IT Chemicals & Biochemicals
AMMONIUM; GLUTAMINE SYNTHETASE; GLUTAMATE SYNTHASE; GLUTAMATE DEHYDROGENASE; ***ALANINE*** DEHYDROGENASE; ***ALANINE*** AMINOTRANSFERASE; AMMONIUM SULFATE; NITROGEN
IT Miscellaneous Descriptors
ALANINE AMINOTRANSFERASE; ***ALANINE*** DEHYDROGENASE; AMMONIUM SULFATE; DEFINED ***MEDIUM*** ; GLUTAMATE DEHYDROGENASE; GLUTAMATE SYNTHASE; GLUTAMINE SYNTHETASE; NITROGEN SOURCE
RN . . . SYNTHETASE)
37213-53-9Q (GLUTAMATE SYNTHASE)
62213-56-3Q (GLUTAMATE SYNTHASE)
65589-88-0Q (GLUTAMATE SYNTHASE)
9001-46-1Q (GLUTAMATE DEHYDROGENASE)
9029-11-2Q (GLUTAMATE DEHYDROGENASE)
9029-12-3Q (GLUTAMATE DEHYDROGENASE)
9029-06-5 (***ALANINE*** DEHYDROGENASE)
9000-86-6 (***ALANINE*** AMINOTRANSFERASE)
7783-20-2 (AMMONIUM SULFATE)
7727-37-9 (NITROGEN)

L9 ANSWER 3 OF 10 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on STN
AN 1991:345907 BIOSIS <<LOGINID::20081221>>
DN PREV199192045282; BA92:45282
TI ROLE OF SODIUM IN THE GROWTH OF A RUMINAL SELENOMONAD.
AU STROBEL H J [Reprint author]; RUSSELL J B
CS SECTION MICROBIOLOGY, CORNELL UNIV, ITHACA, NY 14853, USA
SO Applied and Environmental Microbiology, (1991) Vol. 57, No. 6, pp.

1663-1668.
CODEN: AEMIDF. ISSN: 0099-2240.
DT Article
FS BA
LA ENGLISH
ED Entered STN: 31 Jul 1991
Last Updated on STN: 1 Aug 1991
AB The ruminal selenomonad strain H18 grew rapidly (.mu. = 0.50 h-1) in a defined ***medium*** containing glucose, ammonia, purified ammonia acids, and sodium (95 mM); little if any ammonia was utilized as a nitrogen source. When the sodium salts were replaced by potassium salts (0.13 mM sodium), there was a small reduction in growth rate (.mu. = 0.34 h-1), and under these conditions > 95% of the cell nitrogen was derived from ammonia. No growth was observed when the ***medium*** lacked sodium (< 0.35 mM) and amino acids were the ***only*** ***nitrogen*** ***source*** . At least six amino acid transport systems (aspartate, glutamine, lysine, phenylalanine, ***serine*** , and valine) were sodium dependent, and these systems could be driven by an electrical potential (.DELTA..psi.) or a chemical gradient of sodium. H18 utilized lactase as an energy source for growth, but only when sodium and aspartate were added to the ***medium*** . Malate or fumarate was able to replace aspartate, and when these acids were added, sodium was no longer required. Glucose-grown cells accumulated large amounts of polysaccharide (64% of dry weight), and when the exogenous glucose was depleted, this material was converted to acetate and propionate as long as sodium was present. When the cells were incubated in buffers lacking sodium, succinate accumulated and exogenous succinate could not be decarboxylated. Because sodium had little effect on the transmembrane pH gradient at pH 6.7 to 4.5, it did not appear that sodium was required for intracellular pH regulation.
AB The ruminal selenomonad strain H18 grew rapidly (.mu. = 0.50 h-1) in a defined ***medium*** containing glucose, ammonia, purified ammonia acids, and sodium (95 mM); little if any ammonia was utilized as a nitrogen source.. . . and under these conditions > 95% of the cell nitrogen was derived from ammonia. No growth was observed when the ***medium*** lacked sodium (< 0.35 mM) and amino acids were the ***only*** ***nitrogen*** ***source*** . At least six amino acid transport systems (aspartate, glutamine, lysine, phenylalanine, ***serine*** , and valine) were sodium dependent, and these systems could be driven by an electrical potential (.DELTA..psi.) or a chemical gradient. . . sodium. H18 utilized lactase as an energy source for growth, but only when sodium and aspartate were added to the ***medium*** . Malate or fumarate was able to replace aspartate, and when these acids were added, sodium was no longer required. Glucose-grown. . .

L9 ANSWER 4 OF 10 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on STN
AN 1991:90537 BIOSIS <<LOGINID::20081221>>
DN PREV199191049427; BA91:49427
TI ISOLATION AND THERMAL STABILITY STUDIES OF TWO NOVEL ***SERINE*** PROTEINASES FROM THE FUNGUS TRITIRACHIUM-ALBUM LIMBER.
AU SAMAL B B [Reprint author]; KARAN B; PARKER C; STABINSKY Y
CS DEP 221, BUILDING 5, AMGEN INC, AMGEN CENTER, THOUSAND OAKS, CALIF 91320, USA
SO Enzyme and Microbial Technology, (1991) Vol. 13, No. 1, pp. 66-70.

CODEN: EMTED2. ISSN: 0141-0229.
DT Article
FS BA
LA ENGLISH
ED Entered STN: 11 Feb 1991
Last Updated on STN: 13 Apr 1991
AB A number of ***serine*** proteinases are secreted into the culture ***medium*** when Tritirachium album Limber is supplied with protein as the ***only*** ***nitrogen*** ***source*** . From this population of proteinases, we have isolated two novel proteolytic enzymes, designated as proteinase R and T. We have compared the thermal stability of these two proteinases with that of subtilisin BPN' and proteinase K. Both of these proteinases were thermally stable in the absence of detergents in buffers of low (4.0) and high (10.0) pH. The thermal stability of proteinase T was not affected by the presence of 1.0% SDS either at pH 8.0 or 10.0 in contrast to proteinase R which became heat labile. At low pH, the presence of SDS was detrimental to the stability of all the proteinases.
TI ISOLATION AND THERMAL STABILITY STUDIES OF TWO NOVEL ***SERINE*** PROTEINASES FROM THE FUNGUS TRITIRACHIUM-ALBUM LIMBER.
AB A number of ***serine*** proteinases are secreted into the culture ***medium*** when Tritirachium album Limber is supplied with protein as the ***only*** ***nitrogen*** ***source*** . From this population of proteinases, we have isolated two novel proteolytic enzymes, designated as proteinase R and T. We have. . .
RN 37259-58-8D (***SERINE*** PROTEINASES)
9001-92-7 (PROTEINASE)
37259-58-8 (PROTEINASE T)
151-21-3 (SDS)

L9 ANSWER 5 OF 10 CABA COPYRIGHT 2008 CABI on STN
AN 2007:77752 CABA <<LOGINID::20081221>>
DN 20063221139
TI Growth of Biscogniauxia mediterranea and plant free amino acids: might correlation exist?
AU Turco, E.; Lozzi, I.; Calamai, L.; Marianelli, L.; Campaioli, M.; Dellavalle, I.; Capretti, P.; Ragazzi, A.; Villemant, C. [EDITOR]; Mohamed Lahbib, B. J. [EDITOR]
CS Department of Agricultural Biotechnology, Plant Pathology Section, P.le delle Cascine 28, 50144 Florence, Italy.
SO Bulletin OILB/SROP, (2005) Vol. 28, No. 8, pp. 83-89.
Publisher: International Organization for Biological and Integrated Control of Noxious Animals and Plants (OIBC/OILB), West Palaearctic Regional Section (WPRS/SROP). Dijon
Price: Journal article; Conference paper .
Meeting Info.: Proceedings of the IOBC/WPRS Working Group "Integrated Protection in Oak Forests", Hammamet, Tunisia, 4-8 October, 2004.
URL: http://www.iobc-wprs.org
CY France
DT Journal
LA English
ED Entered STN: 4 May 2007
Last Updated on STN: 4 May 2007
AB The presence on nutritive basal ***medium*** of L-amino acids (***alanine*** , asparagine, glycine, and proline) influenced the behaviour of Biscogniauxia mediterranea, a facultative nonaggressive parasite frequently isolated from healthy and declining oak trees. Larger

colony growth and dry weight of mycelium was observed on asparagine-enriched ***medium*** , while limited performance was shown by glycine-enriched ***medium*** . In contrast, a variable behaviour of the isolates was reported when ***alanine*** and proline were the ***only*** ***nitrogen*** ***source*** . In the attempt to correlate these results to the plant N-metabolism, the composition of free amino acids and their precursors were analysed in leaves of Quercus pubescens and Q. robur trees in Italy. Largely-variable distribution of individual amino acid concentration and of the aspartic acid/asparagine and glutamic acid/glutamine ratios was observed among healthy and declining oaks. Despite the in vitro results, it was not possible to apply the study to the amino acids as a distinctive marker for a stress condition in plants, especially in forest stands where many factors might influence the nitrogen plant metabolism.

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CT ***alanine*** ; amino acids; asparagine; fungal diseases; glycine; plant diseases; plant pathogenic fungi; plant pathogens; proline

L9 ANSWER 6 OF 10 CABA COPYRIGHT 2008 CABI on STN

AN 87:42923 CABA <<LOGINID::20081221>>

DN 19871494518

TI Nitrogen sources for renal ammoniagenesis: study with 15N amino acid

AU Nissim, I.; Yudkoff, M.; Segal, S.

CS Division of Biochemical Development and Molecular Diseases, Children's Hospital of Philadelphia, Philadelphia, PA 19104, USA.

SO American Journal of Physiology, (1986) Vol. 251, No. 6, II, pp. F995-F1002. 23 ref.
ISSN: 0002-9513

DT Journal

LA English

ED Entered STN: 1 Nov 1994
Last Updated on STN: 1 Nov 1994

AB The contribution of amino acids other than glutamine to renal ammoniagenesis was studied in renal tubules obtained from control rats and rats with metabolic acidosis by incubating 2.5 mM [5-15N]glutamine, [2-15N]glutamine, [15N]glutamate, [15N]aspartate, [15N] ***alanine*** or [15N]glycine, as the ***only*** ***nitrogen*** ***source*** in Krebs bicarbonate buffer or as a labelled substrate in a ***medium*** containing a mixture of unlabelled amino acids. With control tissue in Krebs buffer, about 75% of total ammonia was derived from 5-N of glutamine, whereas 2-N of glutamine, glutamate, aspartate, ***alanine*** and glycine supplied 1, 10, 13, 4 and 18%, respectively. In the acidotic state, these values were 51, 30, 30, 30, 10 and 15% of total ammonia produced, respectively. Ammonia that could not be accounted for by 15N analysis was derived from endogenous sources. Studies with tubules incubated in Krebs ***medium*** alone indicated that, in control and acidosis, the calculated fraction of ammonia derived from endogenous

sources was significantly decreased by addition of 0.7 or 2.5 mM glutamine. Ammonia production from endogenous sources was similar whether 0.7 or 2.5 mM glutamine was used as only exogenous substrate. Incubations of control tissue in buffer supplemented with an amino acid mixture revealed a decrease in ammonia production from [5-15N]glutamine compared with incubation in Krebs buffer alone. In chronic acidosis, no significant difference was found in total ammonia formation from [5-15N]glutamine compared with that in Krebs buffer alone. In control and acidosis, the fraction of NH3 derived from glutamate, aspartate, ***alanine*** or glycine was lower in the ***medium*** supplemented with amino acids than with that in Krebs buffer.

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L9 ANSWER 7 OF 10 CABA COPYRIGHT 2008 CABI on STN
AN 86:101227 CABA <<LOGINID::20081221>>
DN 19861486741
TI Proteolytic activity of the ruminal bacterium Butyrivibrio fibrisolvens
AU Cotta, M. A.; Hespell, R. B.
CS Northern Regional Research Center, ARS, USDA, Peoria, IL 61604, USA.
SO Applied and Environmental Microbiology, (1986) Vol. 52, No. 1, pp. 51-58. 42 ref.
ISSN: 0099-2240
DT Journal
LA English
ED Entered STN: 1 Nov 1994
Last Updated on STN: 1 Nov 1994
AB The proteolytic activity of Butyrivibrio fibrisolvens, a ubiquitously distributed bacterial species in the gastrointestinal tracts of ruminants and other mammals, was characterized. The relative proteolytic activity (azocasein degraded in [mu]g/h mg protein) varied greatly with the strain: 0 to 1 for strains D1, D16f, E21C, and X6C61; 7 to 15 for strains IL631, NOR37, S2, LM8/1B, and X10C34; and 90 to 590 for strains 12, 49 H17C, CF4c, CF3, CF1B, and R28. The activity levels of the last group of strains were equal to or greater than those found with Bacteroides amylophilus or Bacteroides ruminicola. With the exception of strain R28 activity, 90% or more of the proteolytic activity was associated with the culture fluid and not the cells. Strain 49 produced proteolytic activity constitutively, but the level of activity (units/mg protein) was modulated by growth parameters. With various carbohydrates added to the growth ***medium*** , the proteolytic activities of strain 49 were positively correlated with

the growth rate. When the growth rate varied with the use of different nitrogen sources, a similar correlation was not found. The highest activity was observed with Casamino Acids (1 g/litre), but this reduced by about 70% with Trypticase (BBL Microbiology Systems, Cockeysville, MD) or casein (1 g/litre) and by 85% with ammonium chloride (10 mM) as the ***only*** ***nitrogen*** ***source*** . The addition of ammonium chloride (1 to 10 mM) to media with low levels of Casamino Acids or Trypticase resulted in lower proteolytic activities but not as low as seen when the complex N sources were increased to 20 g/litre. Proteolytic activity was affected slightly if at all by freezing and increased proportionally with the assay temperature up to 47[deg]C. No precise optimum pH was observed, and the highest activities were in the pH range of 5.5 to 7.0. The proteolytic activity was insensitive to oxygen, and dithiothreitol or L-cysteine inhibited activity up to 40%. The effects of protease inhibitors indicated the proteolytic activities of the culture fluid and cells, which are the same and are of a ***serine*** protease type. Preliminary data from initial purification procedures suggest that the proteolytic activity in the culture fluid consists of a low-molecular-weight protein that is associated with carbohydrate material.

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L9 ANSWER 8 OF 10 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2007:1314126 CAPLUS <<LOGINID::20081221>>
DN 148:373252
TI Assignment of congested NMR spectra: Carbonyl backbone enrichment via the Entner-Doudoroff pathway
AU Goldbourt, Amir; Day, Loren A.; McDermott, Ann E.
CS Department of Chemistry, Columbia University, New York, NY, 10027, USA
SO Journal of Magnetic Resonance (2007), 189(2), 157-165
CODEN: JMARF3; ISSN: 1090-7807
PB Elsevier
DT Journal
LA English
AB In NMR spectra of complex proteins, sparse isotope enrichment can be important, in that the removal of many 13C-13C homonuclear J-couplings can narrow the lines and thereby facilitate the process of spectral assignment and structure elucidation. We present a simple scheme for selective yet extensive isotopic enrichment applicable for prodn. of proteins in organisms utilizing the Entner-Doudoroff (ED) metabolic pathway. An enrichment scheme so derived is demonstrated in the context of a magic-angle spinning solid-state NMR (MAS SSNMR) study of Pf1 bacteriophage, the host of which is Pseudomonas aeruginosa, strain K

(PAK), an organism that uses the ED pathway for glucose catabolism. The intact and infectious Pf1 phage in this study was produced by infected PAK cells grown on a minimal ***medium*** contg. 1-13C -glucose (13C in position 1) as the sole carbon source, as well as 15NH4Cl as the ***only*** ***nitrogen*** ***source*** . The 37 MDa Pf1 phage consists of about 93% major coat protein, 1% minor coat proteins, and 6% single-stranded, circular DNA. As a consequence of this compn. and the enrichment scheme, the resonances in the MAS SSNMR spectra of the Pf1 sample were almost exclusively due to carbonyl carbons in the major coat protein. Moreover, 3D heteronuclear NCOCX correlation expts. also show that the amino acids leucine, ***serine*** , glycine, and tyrosine were not isotopically enriched in their carbonyl positions (although most other amino acids were), which is as expected based upon considerations of the ED metabolic pathway. 3D NCOCX NMR data and 2D 15N-15N data provided strong verification of many previous assignments of 15N amide and 13C carbonyl shifts in this highly congested spectrum. Both the semi-selective enrichment patterns and the narrowed linewidths allowed for greater certainty in the assignments as compared with use of uniformly enriched samples alone.

RE.CNT 54 THERE ARE 54 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

AB . . . catabolism. The intact and infectious Pf1 phage in this study was produced by infected PAK cells grown on a minimal ***medium*** contg. 1-13C -glucose (13C in position 1) as the sole carbon source, as well as 15NH4Cl as the ***only*** ***nitrogen*** ***source*** . The 37 MDa Pf1 phage consists of about 93% major coat protein, 1% minor coat proteins, and 6% single-stranded, circular. . . carbonyl carbons in the major coat protein. Moreover, 3D heteronuclear NCOCX correlation expts. also show that the amino acids leucine, ***serine*** , glycine, and tyrosine were not isotopically enriched in their carbonyl positions (although most other amino acids were), which is as. . .

IT 50-99-7, D-Glucose, analysis 56-40-6, Glycine, analysis 56-45-1, L-***Serine*** , analysis 60-18-4, L-Tyrosine, analysis 61-90-5, L-Leucine, analysis
RL: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)
(carbonyl backbone enrichment via the Entner-Doudoroff pathway in assignment of congested NMR spectra)

L9 ANSWER 9 OF 10 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2002:529676 CAPLUS <<LOGINID::20081221>>
DN 137:294304
TI Growth and proteolytic activity of hairy roots from Centaurea calcitrapa: effect of nitrogen and sucrose
AU Lourenco, Pedro M. L.; de Castro, Susana; Martins, Tiago M.; Clemente, Alda; Domingos, Ana
CS Departamento de Biotecnologia, Instituto Nacional de Engenharia e Tecnologia Industrial, Lisbon, 1649 038, Port.
SO Enzyme and Microbial Technology (2002), 31(3), 242-249
CODEN: EMTED2; ISSN: 0141-0229
PB Elsevier Science Ireland Ltd.
DT Journal
LA English
AB Centaurea calcitrapa hairy root cultures were established by infection with Agrobacterium rhizogenes strain LBA 9402. The liq. ***medium*** hairy root cultures exhibited a biomass doubling time of approx. 1.5 days in the 20 days exponential growth phase. The effect of the initial

sucrose and nitrogen concns. in biomass and proteinase prodn. of the liq. ***medium*** cultures was studied. The highest values for both proteolytic activity and fresh wt. were attained between 30 and 50 g/L sucrose. A low ammonium/nitrate ratio favored the development of hairy roots and proteolytic activity. The best results for both parameters in terms of nitrogen nutrition were obtained with nitrate (24.7 mM) as the ***only*** ***nitrogen*** ***source*** . The max. proteolytic activity was found to be at pH 4.0, within the pH range for aspartic proteinases (APs), and the inhibition studies showed that only pepstatin A, specific for that class of enzymes, revealed a significant inhibitory effect. The C. calcitrapa aspartic proteinase (cenprosin) gene was detected in hairy roots using specific PCR primers. The specific proteolytic activity present in hairy roots seems to be lower than the reported for flowers, but similar to the existent in the untransformed roots and cell suspension cultures.

RE.CNT 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

AB Centaurea calcitrapa hairy root cultures were established by infection with Agrobacterium rhizogenes strain LBA 9402. The liq. ***medium*** hairy root cultures exhibited a biomass doubling time of approx. 1.5 days in the 20 days exponential growth phase. The effect of the initial sucrose and nitrogen concns. in biomass and proteinase prodn. of the liq. ***medium*** cultures was studied. The highest values for both proteolytic activity and fresh wt. were attained between 30 and 50 g/L. . . activity. The best results for both parameters in terms of nitrogen nutrition were obtained with nitrate (24.7 mM) as the ***only*** ***nitrogen*** ***source*** . The max. proteolytic activity was found to be at pH 4.0, within the pH range for aspartic proteinases (APs), and. . .

IT 57-50-1, Sucrose, processes 7727-37-9, Nitrogen, processes 14797-55-8, Nitrate, processes 14798-03-9, Ammonium, processes 37259-58-8, ***Serine*** proteinase 37353-41-6, Cysteine proteinase 81669-70-7, Metalloproteinase
RL: BCP (Biochemical process); BIOL (Biological study); PROC (Process)
(effect of nitrogen and sucrose on growth and proteolytic activity of cultured Centaurea calcitrapa hairy roots)

L9 ANSWER 10 OF 10 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1971:136811 CAPLUS <<LOGINID::20081221>>
DN 74:136811
OREF 74:22063a,22066a
TI Dissociation of R and P+-varients of Bacillus brevis var G. B. during growth on synthetic media with amino acids as the ***only*** ***nitrogen*** ***source***
AU Zharikova, G. G.; Markelova, S. I.
CS Lab. Antibiot., Mosk. Univ., Moscow, USSR
SO Antibiotiki (Moscow) (1971), 16(3), 265-7
CODEN: ANTBAL; ISSN: 0003-5637
DT Journal
LA Russian
AB In 2 varients of B. brevis var GB cultivated with amino acids as the source of N, a high degree of dissocn. to the S form was obsd. In varient R, max. dissocn., growth, and production of gramicidin was obsd. in a ***medium*** with glycine. The R varient was relatively stable in a ***medium*** with ***serine*** or cysteine, tryptophan or norleucine. In ***medium*** with lysine, the R varient in the P- form

was changed. The cells of the P+ varient were more stable and the highest dissocn. was obsd. in a ***medium*** with valine.

TI . . . of R and P+-varients of Bacillus brevis var G. B. during growth on synthetic media with amino acids as the ***only*** ***nitrogen*** ***source***

AB . . . to the S form was obsd. In varient R, max. dissocn., growth, and production of gramicidin was obsd. in a ***medium*** with glycine. The R varient was relatively stable in a ***medium*** with ***serine*** or cysteine, tryptophan or norleucine. In ***medium*** with lysine, the R varient in the P- form was changed. The cells of the P+ varient were more stable and the highest dissocn. was obsd. in a ***medium*** with valine.